

REMARKS

To eliminate the stated basis for the 35 U.S.C. §112 rejection in the Office action dated June 21, 2004, Applicant has by the foregoing amendments revised claims 18-20 to replace *heat exchanger* with *distillation system*, which the Examiner prefers. Claims 1-20 remain pending after the amendments.


In that action, the Examiner also provisionally rejected claims 1-5 and 12-20 for double patenting in view of U.S. Patent No. 09/609,881. By the accompanying terminal disclaimer, Applicant has removed the basis for that rejection.

Under 35 U.S.C. § 103(a), the Examiner has also rejected claims 1, 3-9, 12, 13, and 16-20 as unpatentable over U.S. Patent No. 4,731,159 to Porter et al. in view of U.S. Patent No. 2,953,110 to Etheridge, and she has rejected claim 2 under that statutory section over Porter et al. in view of Etheridge and U.S. Patent No. 2,899,366 to Hickman or U.S. Patent No. 5,968,321 to Sears. Applicant respectfully requests that the Examiner reconsider these rejections, since the prior art of record contains no suggestion of how to adapt Etheridge's folded-sheet-metal heat exchanger to Porter et al.'s evaporator, and, even if it did, the result would not be the subject matter that Applicant's claims define.

Fig. 2 shows a heat exchanger 210 that is, as claim 1 recites, "disposed within the housing [202] and configured for rotation about an axis." To provide the heat exchanger, the opposite edges of a plate folded in the manner that Fig. 4 depicts are joined so that the generally circular shape shown by Fig. 3's heat-exchanger plate 210 results: "the heat

exchanger plate [has] a plurality of folds and two opposing edges that are joined together so as to give the folded plate a generally circular shape, the folds defining a plurality of spaced-apart panels having corresponding surfaces that define alternating evaporating and condensing chambers between opposing panel surfaces.” By thus joining the folded plate’s ends to result in a circular shape, Applicant can begin with a rectangular blank and fabricate the rotary heat exchanger without the scrap that usually results from making heat exchangers of that type and without the need to weld or otherwise join every chamber’s opposed walls together.


Now, it is true that Etheridge discloses the concept of folding a plate to make a heat exchanger; as Applicant does, Etheridge folds a plate to provide each chamber’s opposing walls. And Porter et al. do indeed disclose a rotating heat exchanger that divides evaporation chambers from condensation chambers. But Porter et al.’s individual chambers extend generally perpendicularly to the heat exchanger’s axis of rotation, not axially, as a folded plate joined at its ends in Applicant’s manner can. Consequently, the chamber walls are circular, and there is no apparent way in which a plate can be folded to make opposed circular chamber walls. The prior art of record therefore provides no suggestion that the two patents’ teachings should be combined.



So claim 1 defines subject matter patentable over the prior art of record. For similar reasons, the other independent claim, claim 18, does, too, as do the dependent claims, at least by their dependence on allowable independent claims. Applicants therefore request that the Examiner pass the application to issue at an early date.

Respectfully submitted,

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